

In the Specification

[0023] As will be further appreciated by those familiar with such devices, the design of the anterior assembly of the present invention is also well-suited to support and accommodate injuries to the cervical thoracic junction, that is, injuries to the region of the lower cervical spine and the upper thoracic spine, while the design of the posterior assembly, in particular with a head strap 205 provides support for patients with upper cervical spinal injury. Further details of the anterior assembly are illustrated in FIGS. 2-6. As seen in FIG. 2, the chin strut 102 is most preferably provided with an adjustable affixation section 103, which most preferably is a hook-and-loop type fastener, although other types of fasteners or structures may be provided. Additional details of the chin strut 102 can be appreciated through review of FIGS. 3A-3D. FIG. 3A is a plan view of a chin strut and FIG. 3B is a cross-sectional elevation view taken at line B-B in FIG. 3A, and illustrates the adjustable affixation section 103 that is preferably disposed on a relatively flat and relatively flexible surface so that it may adjustably cooperate with the upper front plate 106 shown in Figure 4. The chin strut 102 is preferably a contoured molded structure that extends upward toward the chin and includes an attachment point 113 that cooperates with the cervical collar 110. In a preferred embodiment, the attachment point 113 is designed to cooperate with existing elements of the cervical collar 110 so that no separate fastener is needed to affix these two subassemblies. Chin strut 102 is preferably attached to a cervical collar chin support 112, as shown in Figure 1A. In this manner, the cervical collar 110 is attached to the anterior assembly in a manner that limits the movement of the chin upward and downward, as well as sideways and rotationally, and thereby stabilizes the wearer since the chin strut 102 is designed to have sufficient rigidity and stiffness to provide such stability. In accordance with the present invention, the chin strut 102 preferably supports the chin of the wearer and transfers force from this point directly to the sternum, rather than the chin of the wearer being supported only by the padded cervical collar 110. Chin strut 102 may be affixed to upper front plate 106 by hook and loop fasteners as herein above described, or by some other appropriate means. As an example, upper front plate 106 can include an elongated slot 115 as shown in Figure 4, for receiving a rivet 120 in chin strut 102. For this purpose, chin strut 102 includes hole 118. In this manner, chin strut 102 can slide along elongated slot 115. Alternatively, upper front plate 106 may include a series of holes 116, whereby once the correct position for chin strut 102 is

determined, plastic rivets can be used through holes 116 and 118 to secure upper front plate 106 to chin strut 102.